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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
AJIBADE AKONAI, OLUMIDE	
ART UNIT	**PAPER NUMBER**
2617	

DATE MAILED: 07/17/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/535,143	DOLGOV ET AL.	
	Examiner	Art Unit	
	Olumide T. Ajibade-Akonai	2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *26 April 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-16* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-16* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

1. The Art Unit location of your application in the USPTO has changed. To aid in correlating any papers for this application, all further correspondence regarding this application should be directed to Art Unit 2617.

DETAILED ACTION

Response to Arguments

2. Applicant's arguments with respect to claims 1-14 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1-4 and 7-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Li et al WO 2004/047380 (hereinafter Li)** in view of **Frick et al 6,104,870 (hereinafter Frick)**.

Regarding **claim 1**, Li discloses a wireless zone-based communication system (all-IP RAN 500, see fig. 5A, p.20, lines 30-31), comprising a plurality of zones (areas serviced by, RN.a, and RN.b, see fig. 5A, p.21, lines 5-6) being served with short data capabilities by a plurality of short data routers (routers 506a, 506b, and 506c, see fig. 5A, p.21, lines 1-4), wherein the plurality of short data routers are operably coupled to a plurality of zone controllers (RN.a, RN.b, see fig. 5A, p.21, lines 5-6), the wireless zone-based communication system being characterised by: at least one zone controller of said plurality of zone controllers being operable to transmit a multicast message

(HARDP_REQ(RN.a,RN.b,HARG.ab) message 565 and 570, see fig. 5B, p.22, lines 17-28) to a plurality of said short data routers (506a, 506b, 506c, 506, 507, see fig. 5B, p.22, lines 17-28) such that at least one short data router of the plurality of said short data routers is operable to generate or update relating to mobility or location (updating routing table 460 and 465, see fig. 4B, p.18, lines 17-22) of mobile communication units (see figs. 5A and 5B, p.22, lines 30-31 and p.23, lines 1-12) that are operational in the at least one zone that the short data router serves (see figs. 5A and 5B, p.22, lines 30-31 and p.23, lines 1-12).

Li fails to discloses wherein at least one of the short data routers is operable to act as a short data router to serve one of the zones and to act as a back-up short data router for another short data router in at least part of another zone served by that other short data router using back-up information received in the multicast message from the at least one zone controller.

In the same field of endeavor, Frick teaches wherein at least one of a plurality of short data routers Router #1, #2, #3, see fig. 3, col. 3, lines 9-17) is operable to act as a short data router to serve one of the zones (DRG supporting groups of LE clients 352, 354, and 356, see fig. 3, col. 3, lines 34-65) and to act as a back-up short data router for another short data router in at least part of another zone served by that other short data router (if any of the DRGs within LEC #1, #2 and #3 goes down, the clients of the down DRG are transferred to another DRG, see col. 4, lines 26-35 and lines 54-63) using back-up information received in the multicast message from the at

least one zone controller (DRG backup MAC, see col. 3, lines 34-60, col. 4, lines 54-63).

It would therefore have been obvious to modify Li with the teaching of Frick for the benefit of providing multiple operational distributed redundant gateways.

Regarding **claim 2**, as applied to claim 1, Li further discloses wherein the information relates to mobility or location of the mobile communication units (see fig. 4B, p.18, lines 17-22, p.23, lines 13-27) and the plurality of said short data routers (routers 506a, 506b, and 506c, see fig. 5A, p.21, lines 1-4) are operable to generate or update mobility information relating to said mobile communication units using the information (updating routing table 460 and 465, see fig. 4B, p.18, lines 17-22).

Regarding **claim 3**, as applied to claim 1, Li further discloses wherein the plurality of said short data routers (506a, 506b, 506c, 506, 507, see fig. 5B, p.22, lines 17-28) are operable to generate or update information relating to said mobile communication units that are operational in the at least one zone (updating routing table 460 and 465, see fig. 4B, p.18, lines 17-22) that the plurality of said short data routers serve as at least one of primary, secondary standby and sharing short data routers (506a, 506b, 506c, 506, 507, see fig. 5B, p.22, lines 17-28).

Regarding **claim 4**, as applied to claim 1, Li further discloses wherein the at least one zone controller (RN.a, RN.b, see fig. 5A, p.21, lines 5-6) is operable to transmit a multicast message (HARDP_REQ(RN.a,RN.b,HARG.ab) message 565 and 570, see fig. 5B, p.22, lines 17-28) to a multicast group address identifying a group joined by said

at least one short data router (routers 506a, 506b, and 506c, see fig. 5A, p.21, lines 1-4).

Regarding **claim 7**, as applied to claim 1, Li further discloses wherein said multicast message (HARDP_REQ(RN.a,RN.b,HARG.ab) message 565 and 570, see fig. 5B, p.22, lines 17-28) comprises an Internet Protocol IP mobility message (IP address pair is distributed to all the routers in RAN 400, see fig. 4A and 4B, p.18, lines 6-10) to maintain synchronised IP address records of mobile communication units operating in the wireless zone-based communication system (See p.18, lines 6-22).

Regarding **claim 8**, as applied to claim 1, Li further discloses wherein said communication system is a trunked radio system (all-IP RAN 500, see figs. 4A and 5A, p.17, lines 18 and p.20, lines 30-31).

Regarding **claim 9**, as applied to claim 8, Li further discloses wherein said communication system is operable in accordance with TETRA standard procedures (all-IP RAN 500, see figs. 4A and 5A, p.17, lines 18 and p.20, lines 30-31).

Regarding **claim 10**, Li discloses a method for improving redundancy provision in a wireless zone-based communication system, comprising a plurality of zones being served with short data capabilities by a plurality of short data routers wherein the plurality of short data routers are operatively coupled to a plurality of zone controllers, the method being characterized by the steps of: transmitting a multicast message (HARDP_REQ(RN.a,RN.b,HARG.ab) message 565 and 570, see fig. 5B, p.22, lines 17-28) from at least one zone controller of the plurality of zone controllers (RN.a, RN.b, see fig. 5A, p.21, lines 5-6) to a plurality of short data routers (506a, 506b, 506c, 506, 507,

see fig. 5B, p.22, lines 17-28); receiving said multicast message by at least one of said plurality of short data routers (see fig. 5B, p.22, lines 17-28); and generating, by said at least one short data router, at least one mobility databases (updating routing table 460 and 465, see fig. 4B, p.18, lines 17-22) for mobile units that are operational in the one or more zones served by said short data router (see figs. 5A and 5B, p.22, lines 30-31 and p.23, lines 1-12).

Li fails to discloses wherein at least one of the short data routers is operable to act as a short data router to serve one of the zones and to act as a back-up short data router for another short data router in at least part of another zone served by that other short data router using back-up information received in the multicast message from the at least one zone controller.

In the same field of endeavor, Frick teaches wherein at least one of a plurality of short data routers (Router #1, #2, #3, see fig. 3, col. 3, lines 9-17) is operable to act as a short data router to serve one of the zones (DRG supporting groups of LE clients 352, 354, and 356, see fig. 3, col. 3, lines 34-65) and to act as a back-up short data router for another short data router in at least part of another zone served by that other short data router (if any of the DRGs within LEC #1, #2 and #3 goes down, the clients of the down DRG are transferred to another DRG, see col. 4, lines 26-35 and lines 54-63) using back-up information received in the multicast message from the at least one zone controller (DRG backup MAC, see col. 3, lines 34-60, col. 4, lines 54-63).

It would therefore have been obvious to modify Li with the teaching of Frick for the benefit of providing multiple operational distributed redundant gateways.

Regarding **claim 11**, as applied to claim 10, Li further wherein the step of generating one or more mobility databases (updating routing table 460 and 465, see fig. 4B, p.18, lines 17-22) is performed by said short data router serving as at least one of a primary, a secondary standby and a load sharing short data router (routers 506a, 506b, and 506c, see fig. 4A, 4B and 5A, p.18, lines 13-22 and p.21, lines 1-4).

Regarding **claim 12**, as applied to claim 10, Li further discloses wherein the step of transmitting includes transmitting a multicast message (HARDP_REQ(RN.a,RN.b,HARG.ab) message 565 and 570, see fig. 5B, p.22, lines 17-28) to a multicast group address identifying a group joined by said at least one short data router (routers 506a, 506b, and 506c, see fig. 5A, p.21, lines 1-4).

Regarding **claim 13**, as applied to claim 1, Li further discloses a zone controller adapted (RN.a, RN.b, see fig. 5A, p.21, lines 5-6) to transmit a multicast message (HARDP_REQ(RN.a,RN.b,HARG.ab) message 565 and 570, see fig. 5B, p.22, lines 17-28) to a plurality of said short data routers (routers 506a, 506b, and 506c, see fig. 5A, p.21, lines 1-4).

Regarding **claim 14**, as applied to claim 1, Li further discloses a short data router (routers 506a, 506b, and 506c, see fig. 5A, p.21, lines 1-4) adapted to receive a multicast message (HARDP_REQ(RN.a,RN.b,HARG.ab) message 565 and 570, see fig. 5B, p.22, lines 17-28) from a zone controller (RN.a, RN.b, see fig. 5A, p.21, lines 5-6) in a communication system (all-IP RAN 500, see fig. 5A, p.20, lines 30-31).

Regarding **claim 15**, as applied to claim 1, Li, as modified by Frick discloses the claimed invention.

Li fails to disclose wherein each of the plurality of short data routers is operable normally to serve one or more zones and, in the event of overload or failure of another short data router and using the information received in the multicast message, as a back-up to the other short data router to serve one or more additional zones normally served by the other short data router.

Frick, however, further discloses wherein each of the plurality of short data routers is operable normally to serve one or more zones (DRG supporting groups of LE clients 352, 354, and 356, see fig. 3, col. 3, lines 34-65) and, in the event of overload or failure of another short data router and using the information received in the multicast message (DRG backup MAC, see col. 3, lines 19-60, col. 4, lines 54-63), as a back-up to the other short data router to serve one or more additional zones normally served by the other short data router (if any of the DRGs within LEC #1, #2 and #3 goes down, the clients of the down DRG are transferred to another DRG, see col. 4, lines 26-35 and lines 54-63).

It would therefore have been obvious to one of ordinary skill in the art to further modify Li and Frick for the benefit of providing multiple operational distributed redundant gateways.

Regarding **claim 16**, as applied to claim 1, Li, as modified by Frick discloses the claimed invention.

Li fails to disclose a short data router according lo Claim 14 and further adapted to act as a back-up short data router for another short data router in at least path of a zone served by that other short data router using information received by multicast transmission from at least one zone controller of the system.

Frick, however, further discloses a short data router (Router #1, #2, #3, see fig. 3, col. 3, lines 9-17) according to Claim 14 and further adapted to act as a back-up short data router for another short data router in at least path of a zone served by that other short data router (if any of the DRGs within LEC #1, #2 and #3 goes down, the clients of the down DRG are transferred to another DRG, see col. 4, lines 26-35 and lines 54-63) using information received by multicast transmission from at least one zone controller of the system (DRG backup MAC, see col. 3, lines 19-60, col. 4, lines 54-63).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 5 and 6 rejected under 35 U.S.C. 103(a) as being unpatentable over **Li et al WO 2004/047380 (hereinafter Li)** in view of **Frick et al 6,104,870 (hereinafter Frick)** as applied to claim 1 above, and further in view of **Ala-Lukko 20040005881**.

Regarding **claim 5**, as applied to claim 1, Li, as modified by Frick discloses the

claimed invention except wherein the at least one short data router is operable to utilise a location query mechanism to minimise inaccuracies in the multicast message.

In the same field of endeavor, Ala-Lukko teaches wherein the at least one short data router (SMS-C, see fig. 3, p.4, [0040]) is operable to utilise a location query mechanism (send routing information, SRI, see fig. 3, p.4, [0040]) to minimise inaccuracies in the multicast message.

It would therefore have been obvious to combine the teaching of Ala-Lukko with Li and Frick for the benefit of controlling a short message service in a mobile communications system.

Regarding **claim 6**, as applied to claim 5, the combination of Li, Frick and Ala-Lukko disclose the claimed invention.

Li and Frick fail to disclose wherein the location query mechanism includes said at least one short data router being operable to query directly at least one of a zone controller's home location register and a visitor location register to obtain mobile unit mobility information when inaccurate mobility information has been received in the multicast message.

Ala-Lukko, however, further teaches wherein the location query mechanism includes said at least one short data router (SMS-C, see fig. 3, p.4, [0040]) being operable to query directly (send routing information, SRI, see fig. 3, p.4, [0040]) at least one of a zone controller's home location register (HLR see fig. 3, p.4, [0040]) and a visitor location register to obtain mobile unit mobility information when inaccurate mobility information has been received in the multicast message.

It would therefore have been obvious to further modify the combination of Li, Frick and Ala-Lukko for the benefit of controlling a short message service in a mobile communications system.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Sato et al (20020106985) discloses a multicast service providing system, multicast service providing method, information distributor, radio terminal, and radio base station.

Choyi et al (20050213545) discloses a micro-mobility network routing system and method.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Olumide T. Ajibade-Akonai whose telephone number is 571-272-6496. The examiner can normally be reached on M-F, 8.30p-5p.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph H. Feild can be reached on 571-272-4090. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

OA

JOSEPH FEILD
SUPERVISORY PATENT EXAMINER